The IS1 element of the present invention brings about target duplication of TA at the site of genomic gene insertion and is characterized by having, as the terminal inverted repeat sequences, the nucleotide sequence shown under SEQ ID NO: 12 in the 5' terminal region and the nucleotide sequence shown under SEQ ID NO: 13 in the 3' terminal region. The IS1 element of the invention is specifically a DNA having a size of not more than about 1 kb, preferably about 100 bp to 500 bp. In the light of such facts, the IS1 element of the invention can be defined as a MITE-like element, like the IS2 element mentioned above.

As the IS1 element of the present invention, there may specifically be mentioned the one having the structure shown in Fig. 2. More specifically, there may be mentioned the one having the nucleotide sequence shown under SEQ ID NO: 2. The MITE-like element having such nucleotide sequence may have one or more nucleotides substituted, added or deleted in the terminal inverted repeat sequences or in the sequence occurring between these repeat sequences of the 5' and 3' terminal regions if the resulting modifications remain functional equivalents substantially having the function or activity of the MITE-like element itself. The MITE-like element of the present invention includes such functional equivalents as well.

Preferred as the functional equivalents are those which substantially have the function or activity of the MITE-like element (IS1 element) having the nucleotide sequence shown under SEQ ID NO: 2 and which are at least 85%, preferably at least 90%, more preferably at least 95% homologous in nucleotide sequence with said IS1 element.

IN THE CLAIMS

Please cancel claims 2, 9, and 13-20, without prejudice.

Please amend claims 1, 4-8, 10, and 11 as follows. For convenience, all pending claims are shown.

1. (Amended) A miniature inverted-repeat transposable element (MITE)-like element capable of causing duplication of the target sequence: (A)nG(A)n [n being an integer of not less than 1] at the site of insertion thereof in a genomic gene, which has perfect or imperfect terminal inverted repeat sequences in the 5' and 3' terminal regions.

2. Cancelled.

3. (Amended 1/17/02) A MITE-like element as claimed in Claim 1 which contains, in the sequence thereof, a plurality of repetitions of at least one of the nucleotide sequences represented

by the formula (1): XttgcaaY (wherein X represents g or t and Y represents a or c) or the formula (2): Zatgcaa (wherein Z represents t or a).

4. (Twice Amended) A MITE-like element as claimed in Claim 1 which has, as terminal inverted repeat sequences, a nucleotide sequence shown under SEQ ID NO: 10 in the 5' terminal region and a nucleotide sequence shown under SEQ ID NO: 11 in the 3' terminal region.

5. (Amended) A MITE-like element comprising the following DNA (a) or (b):

(a) a DNA having a nucleotide sequence shown under SEQ ID NO: 1;

(b) a DNA capable of hybridizing with a DNA having a complementary sequence to the above nucleotide sequence (a) under stringent conditions and capable of causing duplication of the target sequence: (A)nG(A)n [n being an integer of not less than 1] at the site of insertion thereof in a genomic gene.

6. (Amended) A MITE-like element which has, as terminal inverted repeat sequences, a nucleotide sequence shown under SEQ ID NO: 12 in the 5' terminal region and a nucleotide sequence shown under SEQ ID NO: 13 in the 3' terminal region, and is capable of causing duplication of the target sequence TA at the site of insertion thereof in a genomic gene.

7. (Amended) A MITE-like element comprising the following DNA (a) or (b):

(a) a DNA having a nucleotide sequence shown under SEQ ID NO: 2;

(b) a DNA capable of hybridizing with a DNA having a complementary sequence to the above nucleotide sequence (a) under stringent conditions and capable of causing duplication of the target sequence TA at the site of insertion thereof in a genomic gene.

8. (Amended) A transcriptional activation element characterized by containing at least one MITE-like element as a transposable element.

9. Cancelled.

10. (Amended) A transcriptional activation element as claimed in Claim 8, wherein the transposable element comprises at least one MITE-like element comprising the following DNA (a) or (b):

(a) a DNA having the nucleotide sequence shown under SEQ ID NO:1;

(b) a DNA capable of hybridizing with a DNA having a complementary sequence to the above nucleotide sequence (a) under stringent conditions and capable of causing duplication of (A)nG(A)n [n being an integer of not less than 1] at the site of insertion thereof in a genomic gene,

or a MITE-like element comprising the following DNA (c) or (d):

(c) a DNA having the nucleotide sequence shown under SEQ ID NO:2;

(d) a DNA capable of hybridizing with a DNA having a complementary sequence to the above nucleotide sequence (c) under stringent conditions and capable of causing duplication of TA at the site of insertion thereof in a genomic gene.

11. (Amended) A transcriptional activation element as claimed in Claim 8, wherein the transposable element is a tandem coupling product from a MITE-like element comprising the following DNA (a) or (b):

(a) a DNA having the nucleotide sequence shown under SEQ ID NO:1;

(b) a DNA capable of hybridizing with a DNA having a complementary sequence to the above nucleotide sequence (a) under stringent conditions and capable of causing duplication of (A)nG(A)n [n being an integer of not less than 1] at the site of insertion thereof in a genomic gene,

and a MITE-like element comprising the following DNA (c) or (d):

(c) a DNA having the nucleotide sequence shown under SEQ ID NO:2;

(d) a DNA capable of hybridizing with a DNA having a complementary sequence to the above nucleotide sequence (c) under stringent conditions and capable of causing duplication of TA at the site of insertion thereof in a genomic gene.

12. (reiterated) A transcriptional activation element comprising a DNA having the nucleotide sequence shown under SEQ ID NO:3.

Please add the following claims:

Claim 21. (New) A transcriptional activation element comprising a DNA having the nucleotide sequence shown under SEQ ID NO: 14.

Claim 22. (New) A transgene expression cassette which comprises the transcriptional activation element of any on Claims 8, 12, and 21, and a DNA sequence operatively joined to said element.

Claim 23. (New) A transgene expression cassette as claimed in Claim 22, wherein the DNA sequence operatively joined to the transcriptional activation element comprises a promoter and/or a terminator.

Claim 24. (New) A transgene expression cassette as claimed in Claim 23, which further comprises, as the DNA sequence operatively joined to the transcriptional activation element, a desired transgene sequence to be expressed.